

ES5A THRU ES5J

SURFACE MOUNT SUPER FAST RECTIFIER

Reverse Voltage - 50 to 600 Volts Forward Current - 5.0 Ampere

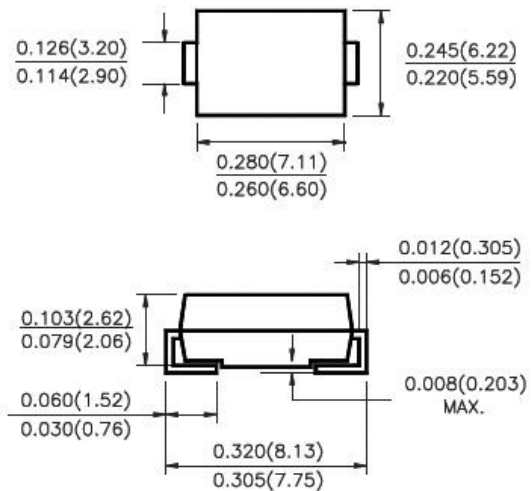
FEATURES

- ◆ Plastic package has underwrites laboratory
- Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Low profile package
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High temperature soldering :
250°C/10 seconds at terminals

Mechanical Data

- ◆ Case: JEDED DO-214AA molded plastic over glass passivated chip
- ◆ Terminals: Solder plated, solderable per MIL-STD-750 Method 2026
- ◆ Polarity: Color band denotes cathode end

DO-214AB (SMC)



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%

	SYMBOL	ES5A	ES5B	ES5C	ES5D	ES5E	ES5G	ES5J	UNIT
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	VOLTS
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	420	VOLTS
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	VOLTS
Maximum Average Forward Rectified Current at $T_L=100^\circ\text{C}$	$I_{(AV)}$	5.0							Amps
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150							Amps
Maximum Instantaneous Forward Voltage @ 5.0A	V_F	0.95				1.25		1.7	Volts
Maximum DC Reverse Current at Rated DC Blocking voltage	$T_A = 25^\circ\text{C}$	5.0							uA
	$T_A = 125^\circ\text{C}$	300							
Typical Reverse Recovery Time Test conditions $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$	t_{rr}	35							nS
Typical Junction Capacitance(Measured at 1.0MHz and applied reverse voltage of 4.0V)	C_J	45				30			pF
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	47							°C/W
	$R_{\theta JL}$	13							
Operating Junction Temperature Range	T_J	-55 to +150							°C
Storage Temperature Range	T_{STG}	-55 to +150							°C

Note: 1. Thermal resistance from Junction to ambient and from junction to lead mounted on P.C.B. with $0.3 \times 0.3''$ ($8.0 \times 8.0\text{mm}$) copper pad areas

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RATING AND CHARACTERISTIC CURVES ES5A THRU ES5J

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

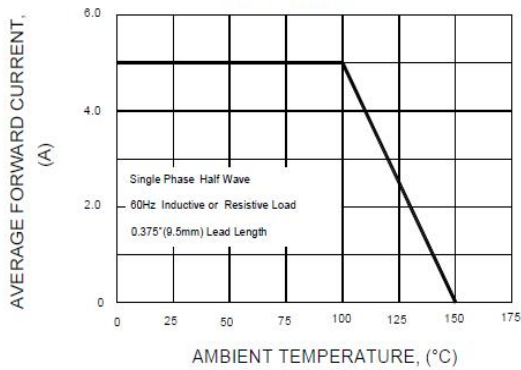


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

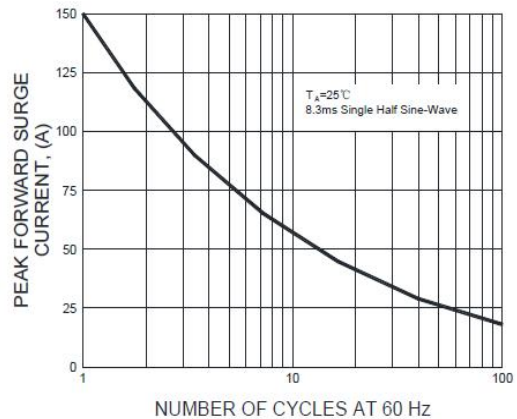


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

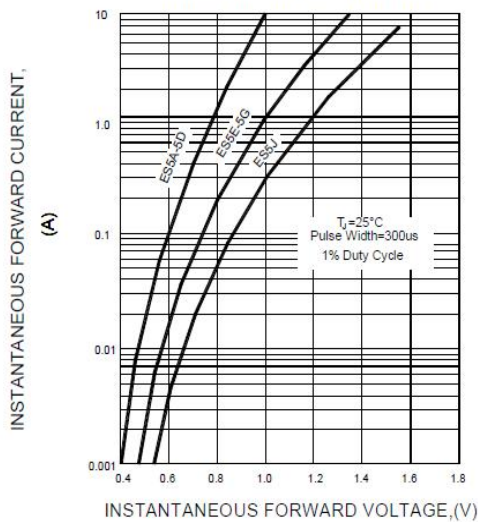


FIG.4-TYPICAL REVERSE CHARACTERISTICS

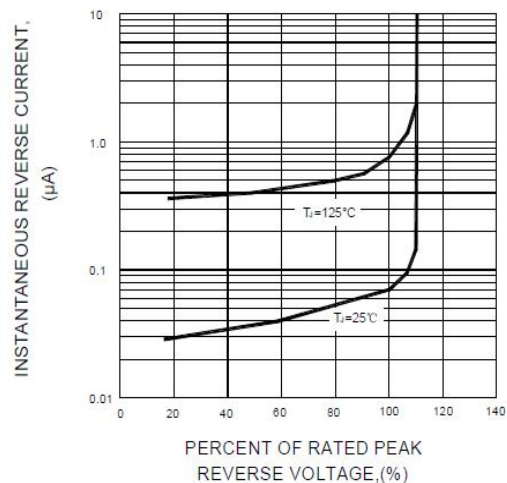


FIG.5-TYPICAL JUNCTION CAPACITANCE

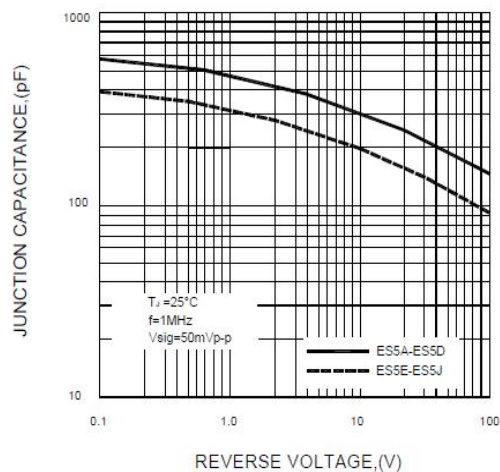
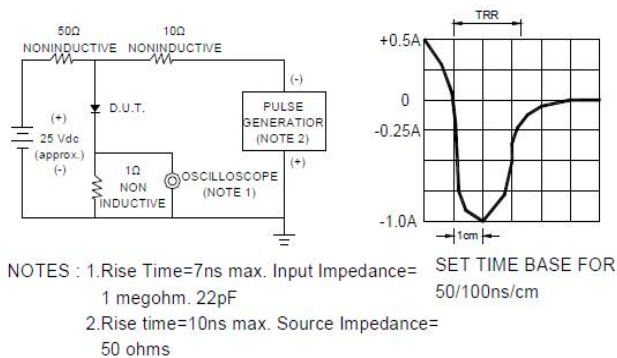


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



Note: Specifications are subject to change without notice. For more detail and update, please visit our website.